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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WOZNIAK, JAMES S

ART UNIT PAPER NUMBER

2655

DATE MAILED: 06/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/941,301

Applicant(s)

BAKIS ET AL

Examiner

James S. Wozniak

Art Unit

2655

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 and 21-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 and 21-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 August 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. In response to the office action from 12/21/2004, the applicant has submitted an amendment, filed 3/21/2005, amending Claims 1-3, 5, 9-13, 15, 19, 21-27, 29, 33-37, 39, and 43, while arguing to traverse the art rejection based on the limitation regarding a text pre-processing step which changes text into an intermediate format (*Amendment, Pages 15-16*). The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection in view of Richard et al (*U.S. Patent: 5,924,068*) and Oh (*U.S. Patent: 6,141,642*).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1, 2, 5, 9-12, 15, and 21-23** are rejected under 35 U.S.C. 102(b) as being anticipated by Richard et al (*U.S. Patent: 5,924,068*).

With respect to **Claim 1**, Richard discloses:

Receiving a text input (*Fig. 18, text input*);

A text-to-speech engine of the text-to-speech system processing said text input into processed input, said processed input comprising at least one of normalized text that represents a standardized version of the text input and an intermediate format used by the text-to-speech engine (*pre-processing, Col. 13, Lines 3-20*);

Comparing said processed input to at least one entry in a text-to-speech cache memory, wherein said entry in said text-to-speech cache memory specifies a corresponding spoken output (*Col. 13, Line 21- Col. 14, Line 8*);

If said processed input matches one of said entries in said text-to-speech cache memory, providing said spoken output specified by said matching entry (*Col. 14, Lines 9-61*).

With respect to **Claim 2**, Richard recites:

Text-to-speech cache entries comprise an intermediate form specifying a spoken output, wherein the processed form does not comprise a digitally encoded audio file and text-to-speech engine converts the intermediate output to a spoken output (*temporary dictionary memory, Col. 13, Line 21- Col. 14, Line 61*).

With respect to **Claims 5 and 15**, Richard discloses:

Determining a spoken output corresponding to said text input; and storing an entry in said text-to-speech cache memory corresponding to said text input, wherein said entry specifies said determined spoken output (*Col. 4, Lines 51-67 and Col. 13, Line 61- Col. 14, Line 8*).

With respect to **Claim 9**, Richard discloses:

The received text input includes corresponding attributes for customizing the spoken outputs, wherein the spoken outputs are customized in accordance with the attributes, the

customizing relating to at least one of a stress, pitch, gender, speed, and volume of the spoken output (*pitch, inflection, Col. 3, Lines 3-20*).

With respect to **Claim 10**, Richard additionally discloses:

Comparing the attributes of the received text input with attributes of the entries in the text-to-speech cache memory (*Col. 13, Lines 21-36*).

With respect to **Claim 11**, Richard discloses:

Text-to-speech cache entries comprise a processed form specifying a spoken output, wherein the processed form does not comprise a digitally encoded audio file (*temporary dictionary memory, Col. 13, Line 21- Col. 14, Line 8*);

Receiving a text input (*Fig. 18, text input*);

Processing said text input to determine a form specifying a spoken output for said received text (*pre-processing, Col. 13, Lines 3-20*);

Comparing said determined form of said text input with said entries in said text-to-speech cache memory (*Col. 13, Line 21- Col. 14, Line 8*);

If the text input matches one of the entries in the text-to-speech cache memory, providing the processed form specified by the matching entry to a text-to-speech engine (*Col. 14, Lines 9-61*); and

Said text-to-speech engine converting the processed form to said spoken output (*Col. 14, Lines 9-61*);

With respect to **Claim 12**, Richard recites:

The determined form of the text input comprises at least one of normalized text that represents a standardized version of the text input and an intermediate format used by the text-to-speech engine (*pre-processing, Col. 13, Lines 3-20*).

Claim 21 contains subject matter similar to Claims 1 and 11, and thus, is rejected for the same reasons.

Claim 22 contains subject matter similar to Claim 9, and thus, is rejected for the same reasons.

Claim 23 contains subject matter similar to Claim 12, and thus, is rejected for the same reasons.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. **Claims 3, 13, and 24** are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al in view of Oh (U.S. Patent: 6,141,642).

With respect to **Claims 3, 13, and 24**, Richard teaches the text-to-speech temporary dictionary as applied to Claims 1, 11, and 21. Richard does not teach a text-to-speech engine having multiple text-to-speech engines, however Oh discloses a text-to-speech processing means

having multiple text-to-speech engines corresponding to different languages (*Fig. 2, Element 210*).

Richard and Oh are analogous art because they are from a similar field of endeavor in text-to-speech conversion. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Richards with the use of multiple text-to-speech engines as taught by Oh in order to provide a means of generating speech when text appears in multiple languages (*Oh, Col. 1, Lines 49-52*).

6. **Claims 4, 6-8, 14, 16-19, 25-26, 28-36, and 38-43** are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al in view of Carter et al (*U.S. Patent: 6,600,814*).

With respect to **Claims 4 and 14**, Richard teaches the text-to-speech temporary dictionary as applied to Claims 1 and 11. Richard does not teach logging each match with a text-to-speech cache entry, however Carter teaches an improved method for cache management that logs each match as a recency of use (*recency of use of a cache entry, Col. 4, Lines 24-39*).

Richard and Carter are analogous art because they are from a similar field of endeavor in text-to-speech conversion. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teachings of Richards with the cache management method taught by Carter to provide a means of determining that a temporary memory capacity has not been exceeded so that newly entered text can be stored by logging each dictionary match as a determined recency of use (*Carter, Col. 4, Lines 24-39*).

With respect to **Claims 6 and 16**, Carter further discloses:

Removing one of said entries in said text-to-speech cache memory having a lowest score *(discard determination based upon a lowest recency, Col. 4, Lines 24-39)*.

With respect to **Claims 7 and 17**, Carter additionally discloses:

Each said entry in said text-to-speech cache memory has a score, said method further comprising: periodically updating each said score *(recency, which would inherently be updated when a cache entry is accessed, Col. 4, Lines 24-39)*.

With respect to **Claims 8 and 18**, Carter additionally discloses:

Removing one of said entries in said text-to-speech cache memory having a lowest score *(discard determination based upon a lowest recency, Col. 4, Lines 24-39)*.

With respect to **Claim 19**, Richard teaches the text-to-speech system as applied to Claims 1 and 11 and also shown in Fig. 18. Richard also teaches that a text segment not found in a cache is synthesized *(Col. 4, Lines 51-67)*. Richard does not teach the method steps of cache management noted in Claim 19 and similar to those in Claims 4 and 6-8, however, as noted above *(with respect to Claims 4 and 6-8)* Carter teaches such a method and is obvious in combination with Richard for the above given reasons.

With respect to **Claim 25**, Richard teaches the text-to-speech method as applied to Claims 1 and 11. Richard does not specifically disclose method implementation as a computer program stored on a computer readable medium, however Carter discloses such an implementation *(Col. 7, Line 65- Col. 8, Line 6)* for the added benefit of allowing any computer to easily perform a text-to-speech conversion method (Carter, Col. 8, Lines 1-6).

Claims 26 and 28-34 contain subject matter similar to Claims 2 and 4-10, respectively, and thus, are rejected for the same reasons.

Claim 35 contains subject matter similar to Claims 1, 11, and 25, and thus, is rejected for the same reasons.

Claims 36 and 38-42 contain subject matter similar to Claims 12 and 14-18, respectively, and thus, are rejected for the same reasons.

Claim 43 contains subject matter similar to Claims 19 and 25, and thus, is rejected for the same reasons.

7. **Claims 27 and 37** are rejected under 35 U.S.C. 103(a) as being unpatentable over Richard et al in view of Carter et al, and further in view of Oh.

With respect to **Claim 27**, Richard in view of Carter teaches the text-to-speech conversion method stored on a computer readable medium as applied to Claim 25, while Oh teaches the use of multiple text-to-speech engines as applied to Claim 3. Richard, Carter, and Oh are analogous art since they are all in a similar field of endeavor in speech synthesis and are obvious in combination for those reasons given with respect to claim 3.

Claim 37 contains subject matter similar to Claim 27, and thus, is rejected for the same reasons.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Nishida et al (*U.S. Patent: 5,845,248*)- teaches a speech synthesizer having a previously synthesized keyword memory.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632 and email is James.Wozniak@uspto.gov. The examiner can normally be reached on Mondays-Fridays, 8:30-4:30.

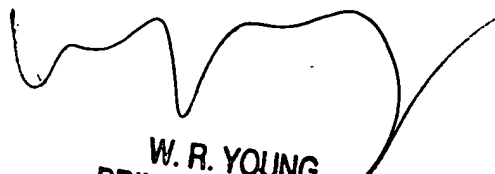
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached at (571) 272-7582. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

James S. Wozniak
6/2/2005



W. R. YOUNG
PRIMARY EXAMINER